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Diet, Food, Exercise, and Nutrition (D-FEND)

Center for Human Nutrition

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## **Nutrition, Exercise, and Mental Health**

Jamie Baum

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# Nutrition, Exercise, and Mental Health

October 30<sup>th</sup>, 2020

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Image: <https://socialcare.blog.gov.uk/2019/04/05/working-together-the-long-term-plan-for-social-work-and-mental-health/>

Project D-FEND: Diet, Food, Exercise, and Nutrition during social distancing. A collaboration between the University of Arkansas System Division of Agriculture's Center for Human Nutrition and the University of Arkansas Exercise is Medicine Program. The University of Arkansas System Division of Agriculture is an equal opportunity/affirmative action institution.



# Objectives

- Understand factors that impact mental health.
- Understand how certain foods benefit mental health.
- Understand how exercise benefits mental health.

Source:  
<https://www.cdc.gov/mentalhealth/index.htm>

# What is mental health?

- Mental health is an important part of overall health and well-being.
- Mental health includes our emotional, psychological, and social well-being.
- It affects how we think, feel, and act. It also helps determine how we handle stress, relate to others, and make healthy choices.
- Mental health is important at every stage of life, from childhood and adolescence through adulthood.

Image: <https://www.memotext.com/the-adoption-of-digital-mental-health-interventions/>

# Dimensions of Well-being

Image: <https://www.uk.mercer.com/our-thinking/thrive-series/care-for-mental-physical-and-financial-wellbeing.html>



PHYSICAL



EMOTIONAL



SPIRITUAL



SOCIAL



INTELLECTUAL



FINANCIAL



ENVIRONMENTAL



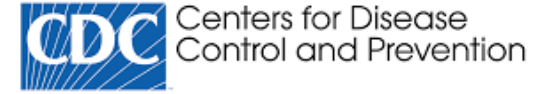
OCCUPATIONAL

# Why is mental health important for overall health?



- Mental and physical health are equally important components of overall health.
- Mental illness, especially depression, increases the risk for many types of physical health problems, particularly long-lasting conditions like stroke, type 2 diabetes, and heart disease.
- Similarly, the presence of chronic conditions can increase the risk for mental illness.

# Look out for these common signs of distress



- Feelings of fear, anger, sadness, worry, numbness, or frustration
- Changes in appetite, energy, and activity levels
- Difficulty concentrating and making decisions
- Difficulty sleeping or nightmares
- Physical reactions, such as headaches, body pains, stomach problems, and skin rashes
- Worsening of chronic health problems
- Increased use of alcohol, tobacco, or other drugs

# Mental Health in the United States

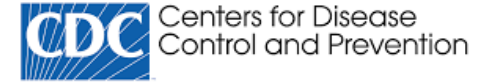


- Percent of adults aged 18 and over with regular feelings of worry, nervousness, or anxiety: 11.2%
- Percent of adults aged 18 and over with regular feelings of depression: 4.7%
- More than **2 in 5 US residents report struggling with mental or behavioral health issues** associated with the coronavirus disease 2019 (COVID-19) pandemic, including anxiety, depression, increased substance use, and suicidal thoughts.
- Updated October 19, 2020
- Feelings of anxiety have also significantly increased in young adults (~60% reported feelings of anxiety and depression)

Source - <https://hartfordhospital.org/about-hh/news-center/news-detail?articleId=27860&publicid=395>



# Can your mental health change over time?

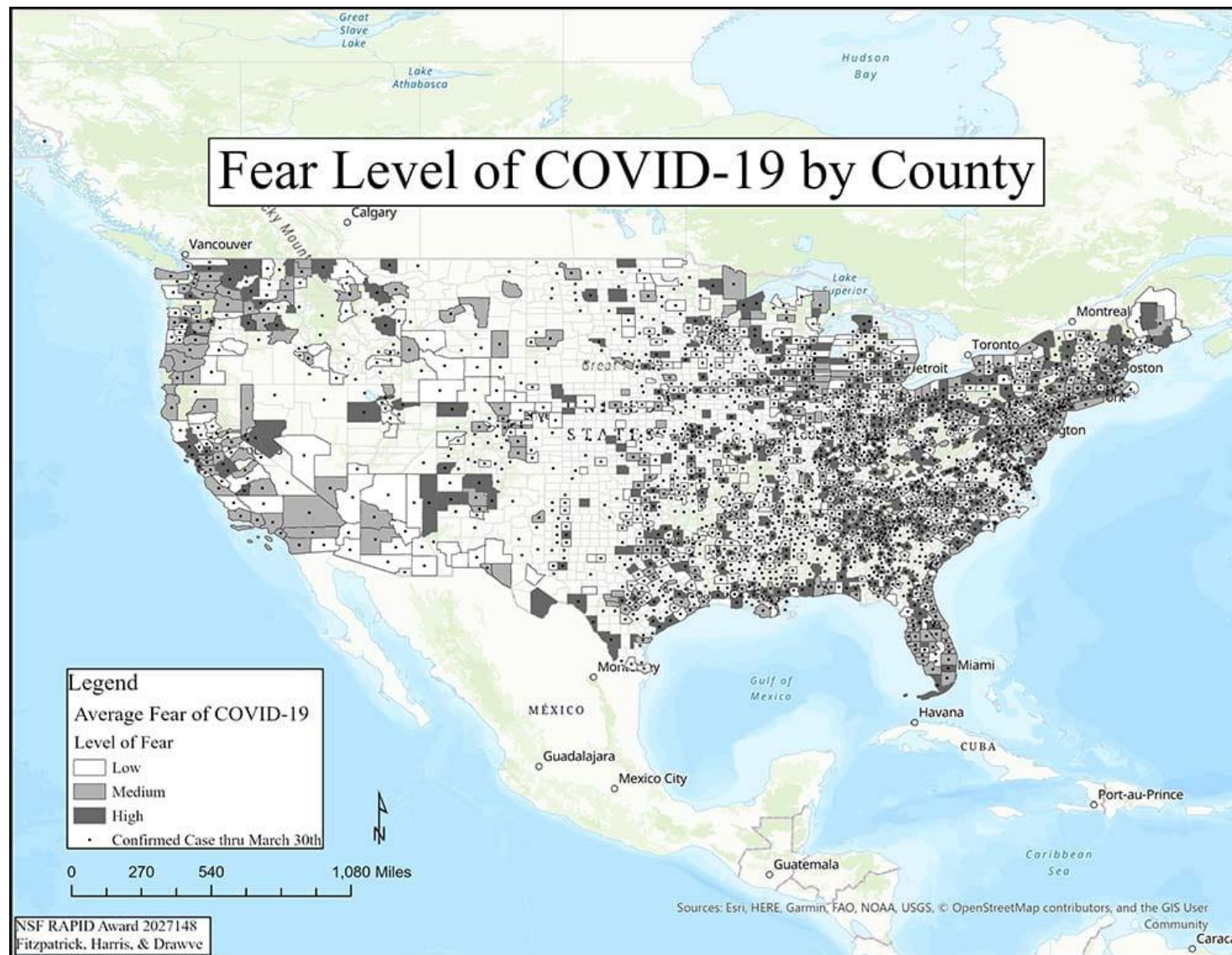


- Yes, it's important to remember that a person's mental health can change over time, depending on many factors.
- When the demands placed on a person exceed their resources and coping abilities, their mental health could be impacted.
- For example, if someone is working long hours or caring for an ill relative or experiencing economic hardship they may experience poor mental health.

# Pandemics can be stressful

- The coronavirus disease 2019 (COVID-19) pandemic may be stressful for people.
- Fear and anxiety about a new disease and what could happen can be overwhelming and cause strong emotions in adults and children.
- Public health actions, such as social distancing, can make people feel isolated and lonely and can increase stress and anxiety. However, these actions are necessary to reduce the spread of COVID-19.
- **Coping with stress in a healthy way will make you, the people you care about, and your community stronger.**

Data  
collected in  
March-  
April 2020



Fitzpatrick, Drawve,  
and Harris. Facing  
new fears during the  
COVID—19 pandemic:  
The State of America's  
mental Health. 2020

# Healthy ways to cope with stress during COVID-19

- Know what to do if you are sick and are concerned about COVID—19.
- Know where and how to get treatment.
- Take care of your emotional health.
- Take breaks from watching, reading, or listening to news stories (including social media).
- Make time to unwind.
- Connect with others (**DFEND!!!!**)
- Connect with your community- or faith-based organizations.
- **Take care of your body.**
  - Eat healthy, well-balanced meals
  - Exercise regularly
  - Get plenty of sleep



Image:  
<https://www.alimentarium.org/en/magazine/nutrition/what-exactly-balanced-meal>



# Eat healthy, well-balanced meals

# Nutritional recommendations for mental health

- Proper nutrition and hydration are vital.
- People who eat a well-balanced diet tend to be healthier with stronger immune systems and lower risk of chronic illnesses and infectious diseases.
- So you should eat a variety of fresh and unprocessed foods every day to get the vitamins, minerals, dietary fiber, protein and antioxidants your body needs.
- Drink enough water.
- Avoid sugar, fat and salt to significantly lower your risk of overweight, obesity, heart disease, stroke, diabetes and certain types of cancer.

Source: World Health Organization-  
<http://www.emro.who.int/nutrition/nutrition-infocus/nutrition-advice-for-adults-during-the-covid-19-outbreak.html>

# Dietary patterns and improved mental health

- A **Mediterranean-style diet** (a diet high in vegetables, fruits, legumes, nuts, beans, cereals, grains, fish, and unsaturated fats such as olive oil.) supplemented with fish oil led to a reduction in depression among participants, which was sustained six months after the intervention.
- A poor diet (with high levels of saturated fat, refined carbohydrates and processed food products) is linked to poorer mental health in children and adolescents.

Sources: <https://www.mentalhealth.org.uk/a-to-z/d/diet-and-mental-health> & <https://nutrition.org/living-mediterranean-lifestyle/>





# Dietary patterns and improved mental health

## MIND Diet

- Mediterranean-DASH Intervention for Neurodegenerative Delay, this eating pattern goes big on natural plant-based foods while limiting red meat, saturated fat and sweets.
- Observational studies suggest the diet can reduce the risk of developing Alzheimer's disease by up to 53 percent as well as slow cognitive decline and improve verbal memory.

<https://www.mayoclinic.org/diseases-conditions/alzheimers-disease/in-depth/15-simple-diet-tweaks-cut-alzheimers-risk/art-20342112>

## WHAT'S ON THE MIND DIET?

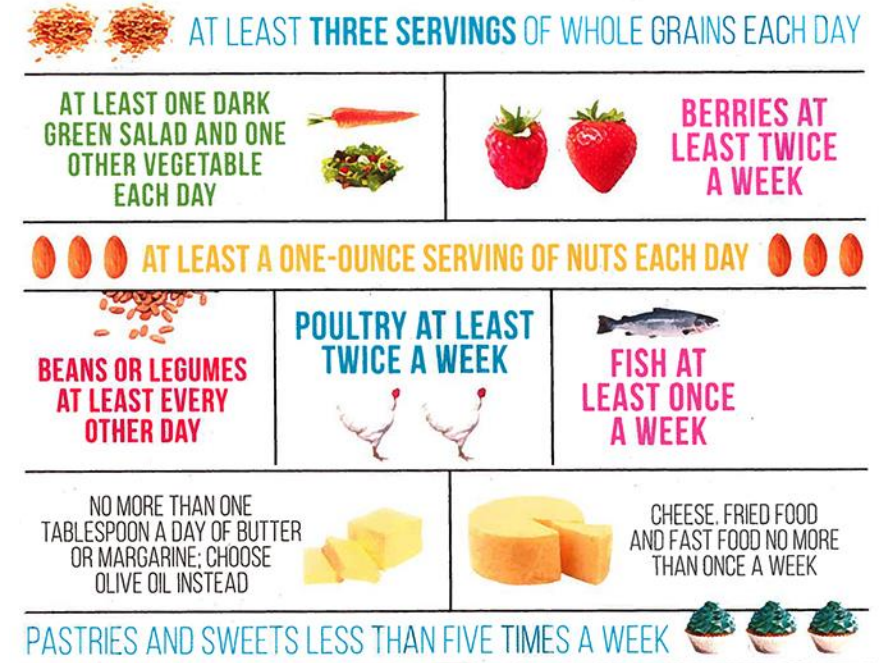


Image: <https://www.pacificneuroscienceinstitute.org/brain-health/specialty-programs/healthy-aging/brain-health-diet/#gref>



# Impact of food intake for improved well-being and mental health

Source: European Journal of Clinical Nutrition (2020) 74:850-851

- Cravings of comfort foods may increase due to stress and boredom
  - Food cravings: Desire to consume a specific kind of food
    - Emotional: intense desire to eat
    - Behavioral: actively seeking food
    - Cognitive: constant thoughts about food
    - Physiological processes
  - Women tend to have a higher prevalence for food cravings than men
- Carbohydrate cravings
  - Encourage serotonin production which has a positive effect on mood, however avoid simple carbohydrates which can lead to weight gain.

# Impact of food intake for improved well-being and mental health

Source: European Journal of Clinical Nutrition (2020) 74:850-851

- Sleep disturbances can increase stress and food intake
    - Consume food containing or promoting the synthesis of serotonin and melatonin at dinner.
      - Roots, leaves, fruits, seeds
      - Protein foods (milk, milk products)
- } tryptophan → serotonin
- Consume foods that boost immune function
    - Fruits and vegetables with micronutrients (vitamins and minerals) and antioxidants that boost immunity.
    - Antioxidants increase the number of T-cell subsets
      - Beta Carotene: sweet potatoes, carrots, green leafy vegetables
      - Vitamin C: red peppers, oranges, strawberries, broccoli, mangoes, lemons
      - Vitamin E: vegetable oils, nuts seeds, spinach, broccoli
      - Vitamin D: sun exposure, fish, liver, eggs, foods with added vitamin D
      - Zinc: poultry, red meat, nuts, seeds, beans, lentils

# Exercise Regularly



Image:  
<https://www.vox.com/2016/4/28/11518804/weight-loss-exercise-myth-burn-calories>

# Mental health benefits of exercise

- Exercise releases chemicals like endorphins and serotonin that improve your mood. It can also get you out in the world, help to reduce any feelings of loneliness and isolation, and put you in touch with other people.
- If you exercise regularly, it can reduce your stress and symptoms of mental health conditions like depression and anxiety, and help with recovery from mental health issues.
- It can also improve your sleep, which is important in many different ways.
- Helps with confidence and self-esteem
- Ability to have more social interactions.
- Takes your mind off worries.

<https://www.healthdirect.gov.au/exercise-and-mental-health>

# Exercise and the mind

<https://www.healthdirect.gov.au/exercise-and-mental-health>

- Exercise pumps blood to the brain, which can help you to think more clearly.
- It increases the size of the hippocampus, the part of the brain responsible for memory.
- It also increases the connections between the nerve cells in the brain. This improves your memory and helps protect your brain against injury and disease.

# Tips for getting started and staying motivated

1. Identify what you enjoy doing.
2. Get your mental health professional's support.
3. Set reasonable goals.
4. Don't think of exercise or physical activity as a chore.
5. Analyze your barriers.
6. Prepare for setbacks and obstacles.

<https://www.mayoclinic.org/diseases-conditions/depression/in-depth/depression-and-exercise/art-20046495>

# How much is enough exercise?

- Doing 30 minutes or more of exercise a day for three to five days a week may significantly improve depression or anxiety symptoms.
  - But smaller amounts of physical activity — as little as 10 to 15 minutes at a time — may make a difference.
- It may take less time exercising to improve your mood when you do more-vigorous activities, such as running or bicycling.
- The mental health benefits of exercise and physical activity may last only if you stick with it over the long term — another good reason to focus on finding activities that you enjoy.
- Aerobic or a mix of aerobic and muscle-strengthening.

# Summary: Diet and exercise affect your mental health

- Mind and body are connected in several ways.
- How we treat our bodies can impact our mental health.
- Eating right and exercising are important mental health practices.



# Next week....

## Health benefits of berries

Dr. Luke Howard

Professor, Food Science

Image:  
<https://www.drfuhrman.com/elearning/eat-to-live-blog/82/eating-berries-reduces-your-risk-of-heart-attack>